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Method for Treating Tubercular Consumption.

REPRINTED FROM THE
NEW YORK "MEDICAL RECORD,"
WM. WOOD & CO., NO. 27 GREAT JONES STREET, NEW YORK, 1877.



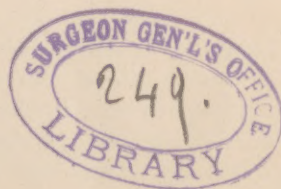
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(The MEDICAL RECORD, February 17, 1877.)

ON THE CURE OF TUBERCULOSIS OF THE LUNGS BY INDUCING CALCIFICATION.

By C. BOTH, M.D.,

NEW YORK.

My attention was drawn to this subject by a post-mortem examination, made at Wuerzburg, by Virchow, I think. The subject having died from some injury, presented, quite unexpectedly, a lung which had previously been the seat of tubercular inflammation, and which was then entirely healed by a spontaneous process of calcification. I remember well the stir this case made at the time, and it left the impression on my mind that a result which nature brings about spontaneously, we must necessarily be able to effect with certainty, provided, first having discovered the conditions under which, and the method by which, she accomplishes this—we thus succeed imitating her.

Dr. John Hughes Bennett, in his "Pathology and Treatment of Pulmonary Tuberculosis, 1853," Blanchard & Lea, 1854, pages v. and vi., says: "Although it was generally considered by the profession that no remedy and no plan of treatment yet employed could be depended on in cases of consumption, it was obvious to the author that if the process employed by nature could be discovered, and then imitated by art, we might ultimately arrive at the true principle of cure." In this same book he publishes cuts of pathological specimens, prepared by himself, representing this spontaneous process of calcification. Similar opinions have been expressed by Piorry, Thiercelin, Alison, Churchill, Cannstadt, Virchow, Niemeyer, and many others.

In 1858, while trying to introduce to the profession of Boston what is now known as cellular physiology and pathology, I was reminded that such was of no *practical* value. This had not occurred to me before, and I thereupon resolved to test the same at once. While at work arranging matters for this purpose, a tubercular con-

sumptive presented himself for treatment. With the idea derived from the post-mortem examination above referred to fresh in my mind, I concluded at once to try to effect calcification in this case. The attempt proved successful, the patient still living to-day, perfectly well, in Frankfurt-on-the-Main.

In considering this case it appeared to me that the re-establishment of capillary circulation in the parts affected was the cardinal point; for when lime is to be deposited as the curative element it can only be carried there by the blood-vessels. I remembered from experiments which I had made on frogs' legs and the lungs of water lizards, while engaged in anatomical researches under the guidance of Dr. Stilling, to have observed that the capillaries, becoming obstructed, would swell and burst, allowing the blood-globules to escape in the tissue meshes. This observation, which I first published in Boston, in 1860, before an audience of about one hundred and fifty physicians, and again in 1863 before the Massachusetts Medical Society, was afterwards published in Berlin (1866) under Cohnheim's name, and again by the Smithsonian Institute (1870) as the latest European discovery.

Upon consideration of the mechanism of respiration I became convinced that the blood, through the long serpentine lung capillaries could not be propelled by the action of the heart, but by respiration only; that, in respiration, the nitrogen of the air was the agent of mechanical pressure, and the oxygen the chemical factor; that oxygen was a thinner gas than nitrogen, and therefore able to penetrate the air-vesicles, while nitrogen could not. This supposition, arrived at by mere logical calculation, has since been proven correct by experiments made by Graham, whereby he increased the amount of oxygen in the air to forty per cent. by filtering air through India-rubber shavings. (*Scientific American*, May 1, 1869, p. 279.) From this I arrived at the conclusion that stagnation of circulation in the lungs must occur wherever the mechanism of respiration ceases, which again must finally lead to an accumulation of blood globules in the vessels, thus forming a thrombus and occasioning distention and rupture of the vessel, with escape of blood-globules into the tissue meshes; that tubercles, therefore, were nothing but escaped blood-globules lodged in the meshes, where they remain and act as foreign bodies. This view has since been corroborated by Professors Petroff, Schueppel, and Waldenburg.

The white and red globules, together with the serum, fill out one or several meshes; the serum next becomes absorbed or evaporated; the red globules lose their pigment (which is afterwards found in tubercles); they then shrivel and their contents coagulate, appearing somewhat like nuclei. The cells themselves change into pus cells, or, according to surrounding influences, into fat cells; they next either decay and infect the neighboring tissue cells, or they may calcify, thus becoming inert. We thus find an explanation for the gray, the yellow, the softening and the calcified tubercle. The latter form, being inert, is the one we seek to produce. An absorption of fresh tubercle cannot occur because there is stagnation of circulation and paralysis of the nerves surrounding the tubercles. The tissue meshes being permanently filled out with blood, occasion simultaneously a collapse of the air vesicles and bronchioles, with more or less catarrhal inflammation of the latter in consequence.

I therefore determined to commence treatment by clearing these bronchioles and vesicles as much as possible, in order to again procure pressure upon the meshes and blood-vessels. For this purpose I employed the muscles of the thorax to expand the chest, and thus force air into the bronchioles and vesicles by *suction*—not by pressure. The result of this is a long deep cough with increased expectoration, which is at first of a slimy, mucous character, afterwards more dense, and cheesy—at times bloody. The muscles are exercised in order according to their layers, viz., first the pectorales, serrati, cucullaris, and latissimus dorsi; afterwards the intercostal and deeper vertebral muscles; and finally, the whole together with the abdominal muscles and the diaphragm. Neither machines, clubs, nor dumb-bells are employed; the weight of the body alone being used to increase the power of suction, which becomes enormous by practice and correct application. The deep inspirations which follow the tension of these muscles occur with relaxed bronchial muscles, thus opening the bronchi, while all machine manipulations occasion contraction of the bronchial muscles, which prevents the air from entering in those parts where we most desire and need it. These muscular exercises are not by any means easy, even for a well and strong person, as it would appear at first. In the case of a consumptive, with nearly paralyzed muscles, it requires a great deal of careful and intelligent guidance on the part of the physician. In directing the exercises due consideration must therefore be given, in each case, to the mental,

physical, and nervous condition of the patient. Too much force causes pleuritis and possibly hemorrhages; too little, has no effect on the points of the lungs. The methodical tension of the muscles not only cleans in time the bronchioles and vesicles of phlegm and pus, but reawakens, to some extent, the paralyzed nerves around the tubercles, inducing again a partial capillary circulation. This constitutes the *local treatment* employed.

The *constitutional treatment* is by far more difficult and complicated. The condition of the glands and blood is in no two cases alike, nor perfect in any. Our first object is to ascertain the state of the intestines and liver. If these are in good order, so much the better; if not, they have to be regulated first. This accomplished, our next point is the state of the blood. Sometimes this is found in a relatively good condition, more often it is not. It is not generally sufficiently oxidized, and is loaded with the remains of used protein substances, which ought to have been excreted, but were not for want of higher oxidation. To reach this I employ citric, uvic, and pomic acids. These acids contain a higher proportion of oxygen than any constituent of the blood, and are the only ones which do not coagulate albumen. I generally use citric acid, because it is the easiest to be obtained. I give the juice of from three to twenty lemons at a dose according to circumstances. The lemons are peeled, the juice pressed out, and taken without water or sugar. No unpleasant feelings should follow its administration. In proportion as these acids increase oxidation and excretion, fresh and new blood material should be furnished in the diet, so as to balance absorption, digestion, and excretion.

Finally, lime and silica are introduced in an easily digestible form, which is the organic; a mineral given in any other form cannot become assimilated. We know that certain plants grow in certain places, and contain certain minerals which are found in those places; such plants disappear the moment these minerals are deficient in the ground. Every farmer knows that witchgrass destroys the fertility of the land, by absorbing from it the phosphates and sulphates of lime and silicates; for this very reason the juice of witchgrass is one of the medicines used to supply the organism with these minerals; and if we consult the history of therapeutics we shall find that Extract. graminis is one of the oldest popular remedies for consumption. A popular and very peculiar remedy, once a secret medicine,

formerly officinal, was the white excrement of dogs. Its official name was *Album græcum*, or *magnesia animalis*. How people came to use such stuff is very strange; yet it really contains organic lime, and it almost seems as if natural instinct had led humanity to seek unconsciously for organic lime as a remedy in consumption.

Another lime-containing plant is *Achillea millefolium*, also an old popular remedy. Thistles contain silicates; plants growing in swamps, sulphates. I use the extracts of them in their crude state, as alcohol excludes the albumen which contains the salt wanted. The following is an average formula as I use these extracts:

Rp. Extr. graminis,	
" trifolii fibr.,	
" millefol.,	
" card. benedicti.....aa	℥ i.
Tartrate of soda	℥ i.
Aqua.....	℥ iiiss.
Tinct. amara.....	℥ iss.
M.	

Dose: one to three tablespoonfuls daily.

There are many other plants which might be used for the same purpose, but I prefer these on account of their bitter extractive matter, which seems to act somewhat as a substitute for bile on the intestines.

In all diseases of a constitutional character we find the great sympathetic partially or wholly overtaxed, so as to induce either partial or general lack of activity. It must, therefore, become a cardinal object to lighten as much as possible the work of this nerve. This can be done by avoiding overtaxing unnecessarily its power in general, and by dividing and balancing its work properly. Upon comprehension of this depends the therapeutical effect of a correct diet, digestion, and excretion. I forbid for this reason any and all stimulants. They are for the sympathetic what the whip is for the horse. A good horse requires no whip, and a whip makes a lame or poor horse no better. The failures in the treatment of constitutional diseases are owing to a lack of appreciation of this fact. The idea of curing a diseased lung without securing the good-will of the sympathetic, is like fighting a battle without a well-drilled army to rely upon. A well-balanced and normal action of the sympathetic is the foundation

upon which we cure a constitutional disorder, and upon no other basis whatsoever. Can we regain this we become master of the situation; if not, nothing will be of any use. In other words, we must establish the balance between *absorption*, *assimilation* and *excretion*, without which nothing can be done in consumption, nor in any other constitutional disease.

The favorable result reached in my first case has led me to give special attention to the subject, and I have employed this method for the last eighteen years in all cases coming under my treatment, and have arrived at the following conclusions, viz.:

1. No case of chronic affection of the lung is curable unless we are able to re-establish vesicular breathing, or, at least, to force air into, and between the affected portions, so as to again induce, at least, *partial* circulation of blood and air.

2. No case is curable in which a nidus of pus exists *outside of the lung-tissue proper*, and within the reach of the general circulation, but beyond reach of the knife or trocar; whether this be a lymphatic gland, or an abscess in the brain, pleura, liver, etc.

I have employed this treatment with the same results in Boston, the West Indies, Western part of this State, and also in New York City. It requires no change of climate, machines, or apparatus, of any kind. Previous to 1869, I treated any patient presenting himself, regardless of diagnosis or conditions; my rate of cure, to those of death then stood 40-60. Since 1870 I have changed my plan, and select only such cases as promise a possibility of cure. Doubtful cases I take on trial for about two months; if they do not reach a precalculated standard, I advise them to desist from further attempts at cure by my method. The consequence of this has been that since that time, with almost nothing but so-called hopeless consumptives on my hands, I have not lost a single case.

The average time required for a lung to calcify is about six to twelve months. My first case required thirteen months. The shortest arrest ever reached was in the case of the wife of a lawyer in Rochester, N. Y., transferred to me by Dr. Kuichling, which required only six weeks, after resisting the usual modes of treatment for two years. This, however, was an entirely uncomplicated case of tuberculosis of only two years' standing.

This method requires the strictest attention and management, as well as a great deal of patience and endurance on the part of both

physician and patient. They are required to keep a book from day to day in which pulse, meals, excretions, and general symptoms are daily noted. This keeps them attentive, and allows an easy review of the case at any time. They go out-doors in any kind of weather, and at all seasons, without extra precaution, and I *never* knew one to be injured by so doing. In fact, I require them to go out. All symptoms of febrile paroxysms, night sweats, and sleeplessness soon disappear without the use of quinine, sulphuric acid, tannin, ergotin, or any other drugs; neither do I use any morphine. The patients must get stronger every day, the pulse and temperature tend towards normality; otherwise things are not progressing as they should. The condition of a patient dismissed as cured is as follows:

1. Percussion remains about the same, sometimes more tympanitic.
2. Auscultation denotes sharper respiration in the parts affected; expiration distinctly audible. No râles or crepitation.
3. Pulse and temperature are normal.
4. Strength greatly increased, without gain in weight to any considerable extent; muscles hard and powerful.
5. Voice is clear, strong and enduring.
6. Patients present no outward symptoms of sickness, and are fully capable of following their usual avocation or business.
7. As yet I never knew any of them to exhibit symptoms of returning lung affection; they, however, are advised to keep up their exercises.
8. Cough entirely ceases, and is the last symptom which disappears.

I have in my possession only one pathological specimen of lung treated by the above method. This case was under my treatment nine months, when he withdrew, without my consent. He gave up treatment in 1861. In 1863 he remarked to me that he could never have had consumption, but that his case must have been one of bad dyspepsia. In 1864 he died from tubercular affection of the lymphatics of the mesenterium. His lungs contained fifteen encapsulated caverns, and show the effect of the treatment to the naked eye, although they have been in alcohol all that time. I only saw him again three weeks before his death, which was caused by exhaustion from five months of diarrhoea.

As will be perceived, this method of treatment has no specific

character, but consists rather of a chain of manipulation and procedures which, linked together, have for their aim a reanimation of cellular activity generally. There can be no doubt but that any organism has the strongest tendency to preserve itself, and if we support this we are able to achieve results which sometimes overreach the most sanguine expectations; at least such has been the case in my practice. I look upon cough as the natural tendency to clean and refill the lungs with air; upon fever as the tendency of the whole cellular vitality to recover its balance. Neither is an enemy to the organism, but only a symptom of cellular activity and vitality, and disappear as soon as its natural purpose has been accomplished.

More minute details than here given may be found in previous papers on this subject, viz.:

MEDICAL RECORD of Sept. 1st, 15th, Oct. 15th, and Dec. 15th, of 1868.

Journal of the Gynecological Society of Boston of Sept., 1869, p. 162; Oct., p. 215, and Dec., p. 356 (on classifications of blood-poisoning), June and July Nos. of 1871 (on anatomy and classification of lung disorders, with cuts).

Schmidt's Jahrbuecher, Leipzig, 1871, No. 1, p. 124.

Oestreichische Zeitschrift fuer praktische Heilkunde, Vienna, No. 9, 1871, and No. 14, 1872.

(THE MEDICAL RECORD, July 21st, 1877.)

A FEW REMARKS ON, AND CASES OF SUCCESSFUL CALCIFICATION OF TUBERCULOSIS OF THE LUNGS.

By C. BOTH, M.D.

NEW YORK.

In order to meet the request of various medical men, in different parts of the country, to describe the mechanism of my plan of treatment, I would say that the mechanical treatment for *clearing* the lungs and *re-establishment* of vesicular respiration consists of three different exercises, which follow each other as the strength of the patient permits. I. The patient is placed in an erect position, with both arms extended, horizontally, on the level with the shoulders. In this position he advances towards a corner of a room, when the hands are placed flat upon the wall, the body is moved slowly forward into the angle, the hands gliding upon the wall. The arms must not be bent, and the spine must be held erect. The actual contact of the patient's face with the corner is hardly ever accomplished on the first attempt; however, he is urged to get as close as possible. He is then told to bend his elbow-joints, and to pull himself slowly back again by the power of the pectoral muscles. The hands to remain on the spot where they were. This exercise stretches the chest very much across the clavicles. Patients are told to do this from six to twelve times per day. Muscular pain across the chest is the next consequence. In about a month the patient should have gained sufficient strength to begin the exercise No. II. This consists in the same movement, with the body in a horizontal position. The patient lets the body *slowly* sink towards the floor, as far as his strength permits. The hands rest upon two chairs placed at a distance of four to five feet, and secured. The whole weight of the body rests upon his two hands and his toes. He having

approached the floor as near as he can, is then told to pull himself up again as slowly as he sank. This is a very difficult exercise and makes the muscles tremble; involuntary deep inspirations follow it immediately. In about three to five months the third and last exercise is commenced. The patient is placed in the middle of a room in an erect position. *One* arm is lifted at the time, as in exercise No. I. This horizontally stretched out arm is reversed in a circle around its axis as if no body was in the way. Of course, when the arm comes in front of the chest, the spine has to be bend backward so as to make room for the arm to revolve. This exercise is very difficult and affects every muscle in the body. In all these exercises the knees must never be bent, the epigastric region not allowed to incline forward, and the respiration not interrupted at any moment. The last exercise gives the finishing touch to the lungs, and a patient advanced to do it is considered an absolutely curable case. The first is generally dropped as soon as No. II. is learned. These exercises should raise the pulse momentarily about ten beats and no more; it must return to its previous height after a few minutes of rest. Although a healthy man cannot do these exercises well on the first attempt, consumptives learn to do them with the greatest ease and comfort. The purpose is to clear the bronchi and alveoli of phlegm, so as to induce the meshes of the elastic tissue to open and shut again. In other words, recreate respiration in the diseased portions.

I have been urged to state some cases cured by my method. I am well aware that in a disease which is generally voted to be incurable there is a great difficulty in convincing the skeptical, and that there is always a doubt about the diagnosis and a suspicion that imagination is overactive. Finally, it may be said, that such cases might have recovered by accident and not by any particular plan of treatment. For these reasons I shall simply mention a few selected ones which have been seen by other medical men, before, during, or after treatment, and which seem to me as excluding mere accident.

Mr. F. L. Lay, an artist, consulted me in the winter 1857—58 in regard to various hemorrhages from which he had been suffering, and a continued cough of several years' standing. In my opinion he had tuberculosis in both apices. After thirteen months' treatment I discharged him as cured. He remained well until the spring of 1864, when he consulted me about a very disturbed digestion, with severe headache. This headache resisted all treatment, both by me as well

as other physicians, until after the fifth month it affected his sensorium. He then began to fail rapidly. Severe cough with abundant expectoration returned. Pulse very low. Dr. Cabot, surgeon to the Massachusetts General Hospital, saw him in September, considering him a hopeless case. So did I. He was reduced to a skeleton; delirious for nearly two months. There seemed to be almost entire paralysis of the sympathetic. He finally completely recovered, and is living to-day in Frankfurt-on-the-Main. I presented this case several times before the Gynecological Society of Boston, and Dr. H. R. Storer's classes. I supposed this last affection to have been a secondary tubercular meningitis. The dulness of percussion in the apices has remained the same for twenty years. This patient is not only perfectly well, but remarkably strong.

Mr. N. P. Merritt, a clothing merchant of Boston, came to me in 1861, after having been obliged to discontinue business for five years. After six months under my method of treatment he was able to resume business, and gave up treatment after nine months, against my wishes. I lost sight of him until February, 1864, when I found him much reduced from a four months' continuing diarrhoea, during which time he was under the care of Drs. Read and Henry I. Bowditch. I gave him the pure juice of twenty lemons, after which he had a large watery discharge containing pieces of mucous membrane, decayed follicles, and pus. After that the diarrhoea ceased, but he died of nervous exhaustion eighteen days afterwards. The autopsy revealed fifteen encapsulated abscesses in his lungs, from the size of a pea to that of a walnut. The mesenteric glands, being secondarily affected, caused his diarrhoea and death. Specimens of these lungs are in my possession, exhibiting to the naked eye the re-entering of air in between the affected lung portions. -

Mr. W. S. Craibe, head clerk of the St. Denis Hotel, New York, came to me in December, 1866. Prof. Willard Parker had sent him home for acute tuberculosis; and his family physician, in consultation with Dr. Calvin Ellis, of Boston, prognosticated his death inside of three months. On the 1st of April, 1867, he re-entered upon his duties in the St. Denis Hotel. Dr. W. Parker, to whom I sent him for re-examination, found his lungs in the same condition. Dr. Krackowizer pronounced him, after careful examination, a case of real tuberculosis. In September of 1867, Dr. Krackowizer admitted that he was much better, but could never recover so far as to be taken

by a life insurance company. In February, 1868, I had him examined in the New York Mutual, the Germania, and, I believe, the Globe Insurance Companies; all three were willing to accept him as a fair risk. He got married in 1870, and died of small-pox in Boston in 1872, having been on duty till suddenly attacked by small-pox. He was burried ere I heard of his death.

Mr. Joseph Holzmeister, a medical student of Vienna, Austria, came to Boston in 1868 for treatment. Had been a patient of Dr. Luzinsky, in consultation with Profs. Rollett and Löbl of Vienna, Dr. v. Hausen, at Gleichenberg and Prof. Dr. Helfreich, of the Würzburg Hospital, all of whom had advised him to live in Madeira. Dr. Lothar Voss, then in New York, examined him while here. After seven months he returned to Germany so much improved that his physicians were surprised. He resumed his studies. In 1870 he went on a hunting expedition, contracted acute peritonitis, and died in two weeks. I was informed that upon autopsy his lungs had been found completely calcified. Whether this peritonitis was a primary or a secondary affection I have not been able to ascertain, but from the suddenness of attack I suppose it to have been independent of his previous tubercular affection.

Mr. George Smith, of Auburndale, Mass., a merchant of Boston, came to me in April, 1872, in a very precarious condition. Besides many other physicians, had been a patient of Dr. H. I. Bowditch. Pulse 120 to 130; besides his lungs denoting the usual dullness, crepitation, and catarrh, his abdomen was very sensitive, and there had been expectoration of pus for over two months. In 1874, after having resumed his business for over a year, and being able to row a boat containing three persons for ten miles, I sent him to Dr. Bowditch for examination. Dr. B. wrote me as follows: "As the patient has new signs of trouble in one lung which did not exist (according to my record) when I saw him, I must decline considering him cured." Mr. Smith is in business to-day, and resides in Auburndale, apparently in as good health as most other people.

Mr. B. I. Baker, 47 Wall Street, New York, became my patient in 1868. Had been examined by Drs. Bradley and T. F. Allen, of New York, and Dr. Hadden, of Jersey City. The Homœopathic Life Insurance Company refused to insure his life for \$1,000 in 1868. He is now insured in the New York Mutual, his policy, dated May, 1874, mentioning him as a first-class risk.

Although ladies generally present more difficulty for treatment than men, by being fretful and whimsical, the quickest records of recovery are among them. Mrs. H. T. Ch., wife of a Boston importer, became my patient for lung disease in March, 1862, and was discharged as well in July of the same year. She is well to-day. She lost most all her family by consumption. Dr. Langmaid, of Boston, is well acquainted with the case, as well as the tendency of her family to consumption.

Mrs. R., wife of a lawyer in Rochester, New York, was referred to me by Dr. Kuichling on the 2d of July, 1873, and discharged as cured on the 18th of August, the next month. She is well yet. Both her physician as well as her family had been much alarmed about her.

Mrs. W., wife of a wealthy farmer, was sent to me by Dr. P. G. Clark, of Rochester, New York. She made a very quick recovery in three months, and is well to-day, as far as I know.

In mentioning these cases I have purposely left out my own opinions and diagnosis, simply mentioning such physicians who happen to know the cases for reference. Any one doubting the reality of them can easily ascertain the facts.

I am sorry to have omitted measuring the chests of my patients before and after treatment, of which I was reminded by Prof. Lewis A. Sayre. This never occurred to me, as the internal structure of the lungs occupied my thoughts much more than external changes, but I know that the form of the thorax changes in all of them. I omit measuring the temperature, because I consider it worthless; it is too changeable, does not help me in regard to the calculation on the changes of the blood causing it, and is apt to trouble and disturb patients unnecessarily. I admit that such is useful in acute affections of serious nature, but in chronic diseases, especially consumption, it is without purpose. If the pulse and temperature in consumptives do not fall to normality in a certain given time, I arrest all treatment, and let the patients enjoy their last days in peace, simply preventing suffocation. All cases which I have lost have died of nervous exhaustion, the sympathetic failing to help; without struggle or painful sensation, not generally even being aware of the approach of death.

My entire attention in curable cases is to the *digestion*, the expectoration, and the *pulse*, which latter must be as regular as a chronometer. The expectoration is at first of a bronchial character; afterwards it has a wormy appearance, with grape-like bunches, oftentimes

tinted with blood. This shows the clearing of the bronchioles and air-vesicles, and is very favorable. From the fact that no lung can heal until previously cleared of phlegm and pus, and accessible to air, it is not so much the more or less affected lung which decides a favorable or unfavorable prognosis, but the power of the sympathetic nerve, without which nothing can be accomplished. It is the same as with recovery from capital surgical operations. A case now under treatment may illustrate this: Mr. H., a New York merchant, became my patient in October, 1876. Has been lung sick for ten years, lost a brother and a sister with consumption; has been examined by Drs. A. Flint, Alonzo Clark, and is a regular patient of Dr. Tucker, in Twenty-sixth Street, New York. Right upper lobe presented a cavity two by four inches; right lung completely filled with tubercles; right pleura filled four inches with exudation; left upper lobe tubercular; left lower the best one in the chest. Has been through the routine of all medication, climates, etc., for the last ten years. Had serious fever during the summer of 1876, in Colorado. Felt better after returning. Pulse high and fluctuating—as high as 124; looked remarkably well in the face, considering the serious affection of his lungs. This patient, with the exception of three days, when I ordered him to bed, has been out every day and evening during the winter, without catching a single “cold;” lost at first four pounds, which he has regained now; the exudation in the pleura is gone; left lung free; right lung clearing slowly, but surely; the cavity is reduced more than half its former size: pulse below 70 in the morning.

In spite of his very much diseased lungs and cavity, this patient has steadily improved, and I expect to let him do business in the fall, and discharge him about the first of January, 1878. If such a recovery is accidental, it is certainly a very peculiar complication of happy accidents.

In regard to the difficulty regarding prognosis, the following two cases may be interesting: M. B., a merchant of 51 New Street, New York, became my patient in October, 1876; Mr. G., a member of the New York Stock Exchange, on the 3d of January, 1877. The extent of the affected lungs were alike in both cases. One lost a brother of consumption in Madeira, in 1875; the other a sister, in the same year. Dull percussion in both apices to third rib; moist crepitation; destruction of tissue in left upper lobe. Muscles in both lax and powerless. Digestion in both completely out of order. Only the

pulse showed a marked difference; in the first case, the pulse was 135; in the latter, only 84—also the expectoration varied; in the one, appearing of a more fibrinous, the other a more albuminous nature. The first case, with a pulse of 135, left New York on the 24th of May for a pleasure trip, and is expected home in October, to resume business. The sympathetic nerve in the other refused. One morning in April he smoked a cigar, after which he fell asleep and did not awake again. To all appearances the prognosis was even in these cases. In fact it was more favorable in the second case; but the nerve in the first held out long enough, while in the second it did not. This difference in the nervous power of patients used to perplex me much years ago; and to-day I have not yet discovered any means to ascertain this power, except by testing the case for at least two months. While the curable cases advance steadily, the lost ones come to a dead stop, when they visibly fail from nervous exhaustion.

The great importance of the sympathetic can best be observed in digestion. The slightest mistake in the diet, in the selecting or missing of certain food, a mental disturbance, is sufficient to upset a case for hours, sometimes for days. The cough at once becomes tight, and the pulse rises. If things are not rectified at once, fever will appear soon after, with night-sweats following.

With these necessarily roughly sketched illustrations, I hope to meet the request of those who have addressed me in regard to the matter. Their insufficiency rests in the difficulty to *tell* what should properly be *shown*.

Astonishing to me is the yet predominating idea that chronic lung affections are absolutely incurable. From a historic point of view this is excusable, but not from an anatomical one. If we compare a moment the microscopical anatomy of the lung with that of the muscular tissue, we find a great similarity. We find in the lung all the restoring resources which we have in the muscles—connective-tissue, with meshes, nourishing and absorbing blood-vessels, nutritive and motory nerves, in short, all we find in a muscle except sensitive nerves; but this does not warrant an exclusion of restorative properties. A tissue cell of the lung is as capable of forming new cells as a muscle tissue cell. Nor does the present condition of science warrant the acceptance and maintenance of a specific blood diathesis in tuberculosis. Virchow, long since, has proven that the blood is utterly unable to hold or retain septic or putrid elements. No author

of former days, nor any of those upholding the germ theory of to-day, have ever been able to *prove* or show the least *fact* warranting the specific blood disorder, or specific germ in tuberculosis or other chronic affections of the lungs. The cheesy degeneration of the glands is a secondary affection; if blood-poisoning occurs in tuberculosis, so is it the *consequence*, and not the origin, of tubercles, which should be termed miliary abscesses. (See my classification of blood-poisoning, *Journal of the Gynecological Society of Boston*, December, 1869, page 356.) These facts are now corroborated by all modern pathologists. (See Waldenburg, *Die Tuberculose*, Berlin, 1869, page 465.)

The only reason for accepting the incurability can lie in the fact that thus far all therapeutical agents have failed. However, this is not astonishing, if we glance over the means that were employed? The mechanism of respiration has never been satisfactorily explained; the remedies recommended were either based on wrong conceptions, or they were very imperfectly applied. Our very best medical authors have tried again and again to succeed after failure upon failure, because they felt morally satisfied that such was possible. A man may fail with a correctly calculated agent if employed under wrong conditions; *i. e.*, we will suppose lime is necessary for calcification. We therefore prescribe correctly organic lime, but we forget to clear the lungs, and we fail of course. Or we clear the lungs and forget the lime—we fail again. Or we do both, but fail to balance equivalent absorption and excretion—we must fail again. And if we accomplish correctly all, and the nervous power is lost, we fail again in spite of correct calculation or application, for we depend upon favorable conditions, without which all is useless.

Dr. Oakey, Jr., of Providence, R. I., a graduate of Harvard, has tried my method with so satisfactory results (43 cases up to 1875) that he has disavowed homœopathy entirely, much to the disgust of the old gent, who is the most fashionable homœopathist in Providence.

In the MEDICAL RECORD of August 11th, 1877, appeared the following passage from Dr. Winston:

CALCIFICATION OF TUBERCULOSIS OF LUNG, AND THE RISKS OF THE MUTUAL LIFE INSURANCE COMPANY OF NEW YORK.—Dr. G. S. Winston, Medical Superintendent of the Mutual Life Insurance Co., in regard to Dr. Both's article (July 21), writes: "So far as he supports his statements by references to the 'New York Mutual' as having insured, subsequent to his treatment, Messrs. B. I. Baker and W. G. Craibe, he is laboring under a misapprehension. No such parties were ever insured in this company. Please make this public, as the Mutual Life Insurance Co. of New York, popularly called the 'New York Mutual,' never under any circumstances insures such risks."

To which I have answered as follows:

AUGUST 17th, 1877.

To the editor of the MEDICAL RECORD:

Under the heading of "Calcification of Tuberculosis of Lung, and the risks of the Mutual Life Insurance Co. of New York," Dr. G. S. Winston thinks me laboring under a misapprehension in regard to Messrs. Baker and Craibe.

Dr. W. will find the life of Z. T. Baker insured for \$3,000 in the New York Mutual. The policy, which, yesterday, I examined myself, is dated May 19th, 1874, No. 157,021—is signed by T. W. Winston, president, and is paid up to 1877.—Mr. Baker also stated to me that he had had a policy for \$2,000 in the Equitable of New York about Sept., 1874 or '75, let it lapse in Sept., 1876.—The mistake of his first letters (B. I. for Z. T.) originated from his peculiar way of writing them.

With W. G. Craibe the matter is somewhat different. Ever since Dr. Krakowitzer, in whose judgment he seemed to confide much, had assured him that he never could recover so as to be taken by a Life Ins. Co., he became very anxious to try the Life Insurance.

In February, 1868 (it may have been March), I informed him that his lungs could bear an examination, and to go to the Germania Life Ins. Co., because I was then, and had been their examining physician in Boston, and I was personally acquainted with Dr. Bernacki; to the Mutual, because it was the largest and most particular, and to a third, the next large one after the Mutual. I also directed him to tell, after examination, all he knew about himself, and why he came

for examination. From a long letter which he wrote me about the affair, and which I have since destroyed or lost, I recollect that the result was to the effect that W. G. Craibe never had tuberculosis, and that I had been mistaken. However, he did *not* get a policy, and I doubt he ever wanted one. This affair seemed to satisfy his mistrustful mind (he was a gratuitous patient). Three months afterwards he wrote me a letter, dated June 21, from Russel's St. Louis Hotel, Quebec, from which I copy the following: "I have had my lungs examined here by one of the best doctors in Canada, Dr. Marsden, who says they are healing quite rapidly. He likes your treatment very much, and strongly advises me to continue it. I explained it as well as I could." He served afterwards in the St. James and Commonwealth Hotels in Boston, and was known by a large number of physicians in Boston, all of whom continually impressed him that he had never been sick at all.

In both these cases there was no symptom left except a slight dullness of percussion, and the audible expiratory murmur (bronchial expiration). Their chest and appearance would have admitted them anywhere, unless, perhaps, the particular attention of the examiner be drawn on the subject. Mr. Craibe, as I stated, died of smallpox. Mr. Baker is alive and well, and I can assure the Mutual Life Ins. Co., that if they have no worse risks in their Company it will be pretty good for them. None of my patients, once cured, ever died or had re-occurrence of lung trouble.

Very respectfully, your obedient

DR. BOTH,

13 E. 30th St., N. Y.



Readers desiring a more qualified exposition of Dr. Both's views on Consumption, may procure

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